

Before the

**FEDERAL COMMUNICATIONS COMMISSION**

Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of

Amendment of Parts 2, 15, 18 and other )  
Parts of the Commission's Rules to Simplify ) ET Docket No. 97 - 94  
and Streamline the Equipment Authorization )  
Process for Radio Frequency Equipment )

**Motion to Accept Late-Filed Comments**

Rockwell International Corporation ("Rockwell") hereby respectfully moves for leave to file one-day late Comments in the above-captioned proceeding. Rockwell was unable to meet the filing deadline because of the unavailability of a key employee who had a family emergency. No prejudice to any party will result from the one-day tardiness of Rockwell's Comments. In addition, absent grant of this motion and inclusion of Rockwell's Comments in the official record, the Commission would not have the opportunity to adequately consider all points of view relevant to the issues raised in the above-captioned proceeding.

Respectfully Submitted,

Rockwell International Corporation

By: Linda C. Sadler

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Amendment of Parts 2, 15, 18 and other	)	
Parts of the Commission's Rules to Simplify	)	ET Docket No. 97 - 94
and Streamline the Equipment Authorization	)	
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**COMMENTS OF ROCKWELL INTERNATIONAL CORPORATION**

Pursuant to Section 1.415 of the Federal Communications Commission ("the Commission") Rules and Regulations, Rockwell International Corporation ("Rockwell") hereby submits Comments concerning the Notice of Proposed Rule Making ("the Notice") in the above-captioned proceeding regarding amendment to and streamlining of the Commission's equipment authorization rules and processes.

**INTRODUCTION**

Rockwell is a diversified electronics company that manufactures a wide variety of radio frequency devices and electronic components. Our Rockwell Collins, Inc. subsidiary ("Rockwell Collins") is a major manufacturer of avionics, including radio frequency devices ranging from HF and VHF radios to weather radars. Rockwell Collins also manufactures land mobile radios for use under Part 90 of the Commission's rules. Further, our Rockwell Semiconductor Systems, Inc. subsidiary ("RSS") manufactures specialized semiconductor solutions widely used in

modems, fax machines, cordless telephones and other communications products subject to various equipment authorization processes. Rockwell therefore has direct interests in the Notice's proposals to amend and streamline the Commission's equipment authorization rules and processes.

The equipment authorization rules and processes are extremely important to manufacturers of radio frequency equipment. By the time a manufacturer applies for a grant of equipment authorization, money has been invested and research and development has largely been completed. At this point in a product program, business resources are likely to be focused on production and marketing plans are likely to be in place. Unnecessary delays in the equipment authorization process can cause economic inefficiencies - especially longer time-to-market and higher costs of production - potentially resulting in a competitive disadvantage for manufacturers subject to such delays. On the other hand, the equipment authorization rules and processes are necessary to protect radio services against harmful interference and preserve the spectrum resources upon which today's markets for radio frequency equipment are built. The Commission should seek to maintain the appropriate balance between these priorities when it modifies or adds to its equipment authorization processes.

## **SUMMARY**

Rockwell supports the Commission's efforts to streamline the equipment authorization rules and processes and takes the following positions with regard to certain of the Commission specific proposals:

- the Commission should implement its proposal to discontinue the notification procedure;
- the Commission should maintain verification as a separate equipment authorization procedure, independent of the Declaration of Conformity (DoC) procedure;

- all equipment currently subject to notification should be subject to verification unless a high risk of interference or other special circumstances warrant the use of a more rigorous equipment authorization procedure;
- the Commission's proposed certification rules require reorganization and modification in order to fully realize the stated benefits of combining the current type acceptance and certification procedures;
- the Commission's deletion of certain filing requirements, e.g. a showing of the nameplate bearing the Commission identifier, in the proposed certification rules will lead to faster and more efficient filing and approval of applications;
- the Commission should allow for special circumstances when requiring manufacturers to submit sample equipment for testing in as little as 14 days;
- the Commission should begin the transition from paper to electronic filing of applications for equipment authorizations as soon as possible; and
- the Commission should make the information collected on Form 731 available for public inspection through the internet and designate a third party to provide the remaining information in electronic form.

A discussion of the above positions follows.

## **DISCUSSION**

### **1) Rockwell supports the Commission's proposal to discontinue the notification procedure.**

The Notice indicates that the Commission has "found little benefit from the notification procedure" and that the equipment currently subject to notification has "rarely exhibited any compliance problems."<sup>1</sup> The Commission concludes that the benefits yielded by Commission review of applications under the notification procedure do not warrant the delays that the procedure can cause.<sup>2</sup> Rockwell agrees with the Commission's findings. Our Rockwell Collins subsidiary produces

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<sup>1</sup> *In the matter of Amendment of Parts 2, 15, 18, and Other Parts of the Commission's Rules to Simplify and Streamline the Equipment Authorization Process for Radio Frequency Equipment*, ET Docket 97-94, Notice of Proposed Rule Making, para. 10.

dozens of navigation receivers which are currently subject to the notification procedure. In our recent experience, delays both in our preparation and the Commission's review of applications for notification have been administrative in nature, e.g. ensuring the proper drawings and photographs of the equipment are submitted, ensuring that proper labeling is applied to prototype equipment, etc. Technical issues have rarely arisen except for the need to seek Commission staff interpretations on whether new models of previously notified equipment require new applications for notification and new identifiers under the rules governing modifications to notified equipment.<sup>3</sup>

Deletion of the notification procedure and transfer of equipment currently subject to notification to a less burdensome form of equipment authorization, e.g. verification, would save manufacturers and the Commission valuable time and resources. Specifically, dropping notification would eliminate the cost of applications and decrease time-to-market by preventing the unforeseen delays involved in submitting applications to the Commission, e.g. clerical mistakes, high volumes of applications, personnel vacations, etc. Eliminating the notification procedure also allows the Commission to focus its resources on speeding up the remaining application-based equipment authorization procedures and on quick execution of sample testing new equipment deemed to present a greater risk of non-compliance with Commission rules - e.g. the practice of testing of new spread spectrum cordless telephones before granting certifications.

**2) The Commission should maintain verification as a separate equipment authorization procedure, independent of the Declaration of Conformity (DoC) procedure.**

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<sup>2</sup> Notice, para. 10.

<sup>3</sup> 47 CFR, Section 2.977.

The Notice proposes that the Commission maintain both the verification and DoC procedures but nevertheless requests comments on whether they should remain separate procedures.<sup>4</sup> Rockwell believes that verification is an efficient equipment authorization procedure with which the Commission can balance manufacturers' requirements for quick and efficient equipment authorization processes and its mission to prevent the sale and distribution of radio frequency equipment causing harmful interference. In cases of equipment where the risks of harmful interference and non-compliance are considered low, Rockwell believes it makes economic sense for the Commission to rely on manufacturers to ensure the compliance of their own equipment. The verification procedure's record keeping provisions and the Commission's ability to inspect the required records and request sample equipment for testing prevent abuses of the verification procedure without the need of filings or the use of accredited testing labs.<sup>5</sup> As discussed below, the DoC process is more burdensome than verification, requiring the use of accredited testing labs and special equipment labeling, and is currently designed to address the special circumstances surrounding the equipment authorization of personal computers.

**3) All equipment currently subject to notification should be subject to verification unless a high risk of interference or other special circumstances warrant the use of a more rigorous equipment authorization procedure.**

The Commission proposes that many Part 15 unintentional radiators be relaxed from notification to DoC.<sup>6</sup> Rockwell notes the Commission's discussion of authorizing additional types of equipment using accredited laboratories under the DoC procedure, but believes such authorization is unnecessary in the case of equipment currently subject to notification. As mentioned above, the Commission

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<sup>4</sup> Notice, para. 12.

<sup>5</sup> 47 CFR, Sections 2.936, 2.955 & 2.956.

characterized equipment currently subject to notification as having a low risk of non-compliance.<sup>7</sup> Rockwell believes the logical first step in deregulating equipment currently subject to notification simply is to remove the Commission's requirements for applications and for use of Commission identifiers. The remaining procedure is roughly equivalent to the verification procedure. Today, the Commission is relying on the good faith of manufacturers and test labs and rare reports of interference to enforce compliance under the notification procedure. In transferring equipment to the verification procedure, the Commission would rely on the same things without the paper trail provided by applications and filed descriptions of test lab facilities available under the notification procedure. Rockwell questions why certification by an accredited lab, under the DoC procedure pursuant to Section 2.948(c) of the Commission's Rules, would be necessary for equipment currently subject to notification.

Further, the Commission's current DoC process is designed specifically to address the circumstances surrounding equipment authorization of personal computers (PCs) and PC components. Those circumstances include: 1) a major consumer market for PC equipment; 2) widely varying and dynamic models of PC manufacturing and distribution and 3) the relative ease and propensity for PC equipment modifications and upgrades, e.g. the sale and use of "plug and play" components. The manufacturing, distribution and use of "Other Receivers" pursuant to Section 15.101 have little in common with those of the PC. For example, a Rockwell Collins navigation receiver authorized under the notification procedure and used in conjunction with navigation systems run by the Federal Aviation Administration ("FAA") has a relatively small and defined customer base; must be installed by FAA authorized personnel; and cannot be modified in virtually any manner without FAA approval. Rockwell believes that the specialized DoC procedure is unnecessary for authorizing such equipment, especially when it is

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<sup>6</sup> Notice, para. 18a.

<sup>7</sup> Notice, para. 12.

deemed to pose a low risk of non-compliance with the Part 15 technical requirements.

**4) The Commission's proposed certification rules require reorganization and modification in order to fully realize the stated benefits of combining the current type acceptance and certification procedures .**

The Notice outlines the benefits of combining the current type acceptance and certification procedures, such as reducing errors that lead to deficient applications.<sup>8</sup> However, in our view, the Commission will not fully realize its streamlining objectives using the proposed certification rules. The proposed rules slightly modify and reorganize the current type acceptance and certification procedures under a single banner, but do not appear to substantially alter either procedure. Rockwell notes that the type acceptance procedure, less a few information filing requirements discussed in the next section, appears almost wholly intact in the proposed certification rules.<sup>9</sup>

If the Commission is set on organizing the authorization of all transmitters under the certification banner, Rockwell suggests that the Commission's proposed certification rules would be clearer if they completely specified the application requirements, including the contents of the technical reports, in separate subsections for equipment used in the authorized services and for equipment subject to Parts 15, 18 and Part 95, Subpart B - Family Radio Service. The proposed rules instead employ a joint subsection followed by potentially confusing and easily missed supplemental subsections in proposed 2.1033(b), (c) and (d).<sup>10</sup> Rockwell's suggested reorganization of the Commission's proposed certification rules is attached.<sup>11</sup>

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<sup>8</sup> Notice, para. 8.

<sup>9</sup> Notice, Appendix B.

<sup>10</sup> Notice, Appendix B.

<sup>11</sup> See Appendix, attached.

As the Commission's proposed certification rules are currently drafted, equipment used in the authorized services appears to be subject to two redundant showings and two new showings. The Notice does not specifically explain why these showings are being imposed on equipment used in the authorized services. First, the requirements in proposed subsection 2.1033(b)(4) appear to be redundant in part with those in proposed subsection 2.1033(d)(vii).<sup>12</sup> Rockwell's suggested rewrite of proposed 2.1033, with separate rather than supplementary subsections, would, in our view, remedy the redundancy. Second, proposed subsection 2.1033(b)(6) would require a "report of measurements" that appears largely redundant with the requirements in proposed Section 2.1033(d)(ix), which cites procedures in proposed Section 2.1099.<sup>13</sup> Rockwell's suggested rewrite would rely on the requirements in proposed subsection 2.1033(d)(ix) for equipment used in the authorized services.

With regard to the additional showings, the Notice does not explain why manufacturers of transmitters used in the authorized services should be required to provide a description of the ground system and antenna, if any, in proposed 2.1033(b)(4). Rockwell notes that antenna systems for equipment used in the authorized services are often interchangeable and usually described in applications for radio station authorizations.<sup>14</sup> Finally, the Notice does not explain why manufacturers of transmitters used in the authorized services should be subject to proposed 2.1033(b)(5), which requires the submission of a block diagram including frequencies of all oscillating devices.<sup>15</sup> Given that the Commission has included most of the current type acceptance requirements in the proposed certification rules, Rockwell believes this requirement is unnecessary for equipment used in the authorized services.

In a related matter, Rockwell notes that the Commission's proposed subsections 2.1033(d)(xi) and (xii) still refer to type acceptance instead of

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<sup>12</sup> Notice, Appendix B.

<sup>13</sup> Notice, Appendix B.

<sup>14</sup> Notice, Appendix B.

<sup>15</sup> Notice, Appendix B.

certification.<sup>16</sup> Rockwell suggests changes to these subsections in the attached modifications to the proposed certification rules.

**5) The Commission's deletion of certain filing requirements, e.g. a showing of the nameplate bearing the Commission identifier, in the proposed certification rules will lead to faster and more efficient filing and approval of applications.**

The deletion of provisions in the current type acceptance and certification procedures requiring drawings and photographs of the nameplate bearing the Commission identifier and a showing of its placement on the equipment will eliminate constant sources of administrative delay both in preparing and reviewing applications for equipment authorization. In Rockwell's experience, such delays are often a result of errant, or simply as yet uncreated, labeling on the prototype and/or pre-production units usually used in compliance testing. Rockwell notes that the Commission should modify current 2.925(b)(3) if showings of the nameplate bearing the FCC identifier are no longer required.

The Notice also proposes to delete the actual labeling requirements for equipment authorized prior to May 1, 1981 that are contained in current sections 2.1003 and 2.1045 and indicates that the Commission's intent is to delete obsolete rules.<sup>17</sup> Rockwell supports the deletion of obsolete rules, but seeks clarification that the Commission does not intend to require new labeling for equipment authorized in prior to May 1, 1981 that is still in service and, potentially, intermittent production. Production of early model equipment is occasionally necessary when such equipment operates as part of larger and more costly systems, such as aircraft.

Finally, the Commission makes electronic filing via the internet feasible by deleting current requirements for the submission of photographs. When digitized,

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<sup>16</sup> Notice, Appendix B.

<sup>17</sup> Notice, para. 17.

the currently required 8" x 10" photographs are of substantial size and could present problems in transmission using normal internet connections. In a related matter, Rockwell notes that proposed subsection 2.933(b)(6) refers to the photograph requirements in current subsection 2.983(f), which is deleted in the Commission's proposed rules.<sup>18</sup>

**6) The Commission should allow for special circumstances when requiring manufacturers to submit sample equipment for testing in as little as 14 days.**

When serious complaints of interference caused by an authorized device are received by the Commission, it should have the ability to quickly collect and test the potentially offending equipment. However, in certain cases, it may not be feasible for a manufacturer to produce or procure a sample of equipment that is not currently in production in as little as 14 days. In such cases, the Commission should allow the grantee to explain the circumstances under current subsection 2.943(b) and work out a reasonable solution with the Commission staff.

**7) Rockwell supports the Commission's proposal to transition from paper to electronic filing of applications for equipment authorizations.**

Electronic filing is a "win/win" proposal with respect to balancing the need for quick and efficient equipment authorization processes and the Commission's mission to protect against harmful interference. It promises faster and more efficient production, filing and reviewing of applications for equipment authorization without requiring the Commission to sacrifice the collection and review of material necessary to prevent the sale and distribution of equipment that causes harmful interference. The Commission believes that the average time it takes to review and

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<sup>18</sup> Notice, Appendix B.

approve applications could be cut in half by electronic filing.<sup>19</sup> Virtual elimination of document travel time between the Commission's agent in Pittsburgh and the Commission's lab in Columbia, Maryland and between the various personnel in charge of application review will yield immediate time savings. Further, electronic applications should immediately eliminate current data entry needs. The Commission should be capable of adding automated review features that can instantly perform administrative checks, e.g. inventory applications to determine whether the applicant has submitted all the necessary materials.

Rockwell believes the Commission's preliminary plan to have applicants submit applications to its FTP server via the internet using tagged image format (tif) or portable document format (pdf) for application materials is a sound and widely available, but (depending on internet conditions and access) potentially slow approach.<sup>20</sup> The Commission should also investigate and seek to establish some form of encryption to protect proprietary company data that might be submitted with requests for confidentiality. Depending on access and internet conditions, dial up access to the Commission's servers could be a potentially faster and more secure method of electronically filing applications for equipment authorizations.

Regardless of the routing involved in delivering applications to the Commission in electronic format, Rockwell urges the Commission to take full advantage of the system resources it will deploy in support of electronic filing to keep applicants abreast of application status. To this end, the revised electronic Form 731 could include an optional space for the email addresses of people responsible for the application. The Commission's systems could automatically notify applicants via email: when applications are received (replacing the date stamp); when fee-related charges to credit card or other accounts are accepted or rejected; when applications have entered technical review; and finally, when the equipment has been approved. The system could be designed to easily allow the

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<sup>19</sup> Notice, para. 23.

<sup>20</sup> Notice, para. 24.

Commission's engineers to inform applicants of problems and request any necessary data via email.

**8) The Commission should make the information collected on Form 731 available for public inspection through the internet and designate a third party to provide the remaining information in electronic form.**

As the Commission indicates, multiple simultaneous access to the volume of electronic data included in applications for equipment authorization could compromise the overall service quality of the Commission's internet servers.<sup>21</sup> The basic grantee and product information contained on the Form 731 should be sufficient to inform the public about the equipment and allow individuals to determine whether they wish to seek additional information available for public inspection, e.g. test results, etc., at the Commission's test lab or through a third party vendor.

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<sup>21</sup> Notice, para. 26.

**CONCLUSION**

With the foregoing recommendations, Rockwell encourages the Commission to implement the fastest and most efficient equipment authorization processes feasible while continuing its mission to prevent the sale and distribution of equipment causing harmful interference.

Respectfully submitted,

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## **APPENDIX**

### **REORGANIZATION AND MODIFICATION OF PROPOSED THE CERTIFICATIONS RULES**

The following represents Rockwell's suggested reorganization and modification of the Commission's proposed certification rules.

#### Section 2.1033 *Application for Certification*

(a) An application for certification shall be filed on FCC Form 731 with all questions answered. Items that do not apply shall be so noted.

*[Subsection (b) combines the Commission's proposed subsections (b) and (c) to encompass all application requirements for equipment operating under Parts 15 or 18 or Part 95, Subpart B - Family Radio Service]*

(b) Applications for equipment operating under Parts 15 or 18 or under Part 95, subpart B - Family Radio Service, shall be accompanied by a technical report containing the following information:

(1) The full name and mailing address of the manufacturer of the device and the applicant for certification.

(2) FCC identifier.

(3) A copy of the installation and operating instructions to be furnished the user. A draft copy of the instructions may be submitted if the actual document is not available. The actual document shall be furnished to the FCC when it becomes available.

(4) A copy of the schematic diagram of the circuitry along with a description of the circuit functions of the device and a statement describing how the device operates. This statement should contain a description of the ground system and antenna, if any, used with the device.

(5) A block diagram showing the frequency of all oscillators in the device. The signal path and frequency shall be indicated at each block. The tuning range(s) and intermediate frequency(ies) shall be indicated at each block.

(6) A report of measurements showing compliance with the pertinent FCC technical requirements. This report shall identify the test procedure used (e.g., specify the FCC test procedure, or industry test procedure that was used), the date the measurements were made, the location where the measurements were made, and the device that was tested (model and serial number, if available). The report shall include sample calculations showing how the measurement results were converted for comparison with the technical requirements.

(7) If the equipment for which certification is being sought must be tested with peripheral or accessory devices connected or installed, a brief description of those peripherals or accessories. The peripheral or accessory devices shall be unmodified, commercially available equipment.

(8) For equipment subject to the provisions of Part 15 of this chapter, the application shall indicate if the equipment is being authorized pursuant to the transition provisions in section 15.37 of this chapter.

(9) Applications for the certification of direct sequence spread spectrum transmitters under Part 15 shall be accompanied by an exhibit demonstrating compliance with the processing gain provisions of §15.247(e) of this chapter. Applications for the certification of frequency hopping transmitters under Part 15 shall be accompanied by an exhibit describing compliance of the associated receiver or receivers with Section 15.247(a)(1) of this chapter.

(10) Applications for the certification of scanning receivers shall include a statement describing the methods used to comply with the design requirements of § 15.121(a) of this chapter or the marketing requirements of § 15.121(b) of this chapter.

*[Subsection (c) combines the Commission's proposed subsections (b) and (d) to encompass all application requirements for equipment other than that operating under Parts 15 or 18 or Part 95, subpart B - Family Radio Service. The requirements in (c)(4), based on the Commission's proposed subsection (b)(4), are modified to drop the descriptions of ground system and antenna, and specifically include the circuitry descriptions required in the Commission's proposed (d)(vii), which is deleted as a separate subsection.]*

(c) Applications for equipment other than that operating under Parts 15 or 18 or Part 95, subpart B - Family Radio Service, shall be accompanied by a technical report containing the following information:

(1) The full name and mailing address of the manufacturer of the device and the applicant for certification.

(2) FCC identifier.

(3) A copy of the installation and operating instructions to be furnished the user. A draft copy of the instructions may be submitted if the actual document is not available. The actual document shall be furnished to the FCC when it becomes available.

(4) A copy of the schematic diagram of the circuitry along with a description of the circuit functions of the device and a statement describing how the device operates. This statement should contain a description of all circuitry and devices provided for

determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation, and for limiting power.

(5) Type or types of emission.

(6) Frequency range.

(7) Range of operating power values or specific operating power levels, and description of any means provided for variation of operating power.

(8) Maximum power rating as defined in the applicable part(s) of the rules.

(9) The dc voltages applied to and dc currents into the several elements of the final radio frequency amplifying device for normal operation over the power range.

(10) Tune-up procedure over the power range, or at specific operating power levels.

(11) For equipment employing digital modulation techniques, a detailed description of the modulation system to be used, including the response characteristics (frequency, phase and amplitude) of any filters provided, and a description of the modulating wavetrain, shall be submitted for the maximum rated conditions under which the equipment will be operated.

(12) The data required by Sections 2.1085 through 2.1097, inclusive, measured in accordance with the procedures set out in Section 2.1099.

(13) Measurements must be submitted showing compliance with Section 73.940 for an encoder device used for the generation of the EBS Attention Signal as defined in section 73.906.

*[Subsections (c)(14) and (15), based on the Commission's proposed (d)(xi) and (xii), are modified to reflect the deletion of the type acceptance procedure]*

(14) The application for certification of an external radio frequency power amplifier under Part 97 of this chapter need not be accompanied by the data required by Paragraph (c) of this section. In lieu thereof, measurements shall be submitted to show compliance with the technical specifications in Subpart C of Part 97 of this chapter and such information as required by Section 2.1105 of this part.

(15) An application for certification of an AM broadcast stereophonic exciter-generator intended for interfacing with existing certified, or formerly type-accepted or notified, transmitters must include measurements made on a complete stereophonic transmitter. The instruction book must include complete specifications and

circuit requirements for interconnecting with existing transmitters. The instruction book must also provide a full description of the equipment and measurement procedures to monitor modulation and to verify that the combination of stereo exciter-generator and transmitter meet the emission limitations of section 73.44.

*[Subsection (d) is identical to the Commission's proposed subsection (e).]*

(d) A single application may be filed for a composite system that incorporates devices subject to certification under multiple rule parts, however, the appropriate fee must be included for each device. Separate applications must be filed if different FCC Identifiers will be used for each device.